Study Guide for Cell Cycle and Cancer Quiz

*Refer back to Ch. 5*

**The Cell Cycle**

What is it?

What are the three main stages in the cell cycle? (See Figure 5.1, pg. 134)

What are the relative times of the stages? (See Figure 5.1, pg. 134)

What are the stages within these main stages (note: applies only to interphase and mitosis)?

Be able to describe what occurs during each stage. (Use Figure 5.7, pg. 141 to study)

*Example: During anaphase, spindle fibers shorten thus pulling apart chromosomes.*

What is the outcome of mitosis and cytokinesis?

Why is it necessary for cells to divide? How does this benefit an organism?

What is the relationship between a cell’s surface area and its volume?

What is the function of cell cycle checkpoints? (general reason)

What is the role of cyclin-dependent kinases?

**What will most likely occur if…?**

Be able to explain what would happen if, for example, the nucleus never dissolved during prophase? In others words, be able to predict the outcome if a major process that occurs during the cell cycle does not occur properly.

**Cancer**

What is it?

Why is uncontrolled cell division harmful to an organism?

Review TEDEd video “How do cancer cells behave differently than healthy ones?” and be able to answer questions based on the information given such as:

Why people often feel nauseous, lose hair, etc. due to chemotherapy?

Begnin vs. malignant tumor

What is metastasis?

Review TEDEd video “How Does Cancer Spread Through the Body?”

Can you name the three pathways for metastasis and explain them in layman’s terms?

*Ex. Transcoelomic – means cancer cell’s move through the lining that cover’s your organs*.

What is apoptosis? Why is this process beneficial?

Review *Cancer Myths and Misconceptions* at www.cancer.gov